

Notice of Allowability

Application No.

09/228,445

Examiner

Phuongchau Ba Nguyen

Applicant(s)

FREITAG ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2-13-6.
2. ☒ The allowed claim(s) is/are 1,2,4-16; Renumbered as 1-15 respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 3-16-6.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Merkel (41,191) on 3-16-6.

3. The application has been amended as follows:

-Claim 14, line 5,

---to a timing recovery unit---had been inserted after the word

"stream";

-Claim 14, line 6,

"a" had been replaced with ---the---

-Claim 14, line 9,

---and the clock signal to a serial communication controller---

had been inserted after the word "stream".

-Claim 14, line 10,

"a" had been replaced with ---the---

REASONS FOR ALLOWANCE

4. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, 2, 4-5, the prior art of the record fails to teach or suggest a serial communication controller for transmitting and receiving a serial data stream including multiple serial data channels having portions which alternate in time with respect to each other, comprising "each functional unit is a state machine having a set of unique operating states, and wherein each functional unit comprises a set of memory elements, and wherein state information stored within the set of memory elements of a given functional unit determines the one of the unique operating states in which the functional unit is operating," which is considered in combination with other limitations, as specified in the independent claim 1.

Regarding claims 6-10, the prior art of the record fails to teach or suggest a serial communication controller for transmitting and receiving a serial data stream including alternating portions of multiple serial data channels, comprising "each functional unit is a state machine having a set of unique operating states, and wherein each functional unit comprises a programmable state register, and wherein state information stored within the state register of a given functional unit determines the one of the unique operating states in which the functional unit is operating; a microcontroller coupled to each of the plurality of functional units and to the memory unit, wherein the microcontroller is configured to transfer state information between the plurality of functional units and the memory unit such that the plurality of functional units operates alternately upon the portions of the multiple serial data channels," which is considered in combination with other limitations, as specified in the independent claim 6.

Regarding claims 11-13, the prior art of the record fails to teach or suggest a method for transmitting and receiving a serial data stream including alternating portions of multiple serial data channels, comprising "each

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functional unit is a state machine having a set of unique operating states, and wherein state information stored within a given functional unit determines the one of the unique operating states in which the functional unit is operating; and transferring state information between the plurality of functional units and a memory unit such that the plurality of functional units operates alternately upon the portion of the multiple serial data channels; wherein different state information is transferred for each serial data channel depending on which serial data channel's portion is being operated on by the plurality of functional units," which is considered in combination with other limitations, as specified in the independent claim 11.

Regarding claims 14-16, the prior art of the record fails to teach or suggest a serial communication system comprising "a timing recovery unit coupled to receive the receive serial data stream from the interface unit, wherein the timing recovery unit is configured to produce a clock signal derived from the receive serial data stream and to provide the receive a serial data stream and the clock signal to a serial communication controller; the serial communication controller coupled to receive the clock signal and the receive

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serial data stream, wherein the serial communication controller comprises a plurality of functional units configured to operate in series according to a serial communication protocol, and wherein each functional unit is configured to perform a different specific function of said serial communication protocol, and wherein the plurality of functional units operates alternately upon the portions of the multiple serial data channels of the receive serial data stream to perform said serial communication protocol on the multiple serial data channels," which is considered in combination with other limitations, as specified in the independent claim 14.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchau Ba Nguyen whose

telephone number is 571-272-3148. The examiner can normally be reached on Monday-Friday from 10:00 a.m. to 2:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 571-272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DUCHO
PRIMARY EXAMINER



3-17-06



Phuongchau Ba Nguyen
Examiner
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